

## REMARKS

### Status of the Claims

- Claims 1-40 are pending in the Application after entry of this amendment.
- Claims 1-40 are rejected by the Examiner.
- Claim 34 is amended by Applicant.

### Claim Rejections Pursuant to 35 U.S.C. §112

Claim 34 is rejected under 35 USC §112, second paragraph for insufficient antecedent basis. Applicant agrees and amends Claim 34 to depend on Claim 33 instead of Claim 1. Applicant respectfully requests withdrawal of the 35 USC §112 rejection.

### Claim Rejections Pursuant to 35 U.S.C. §103 (a)

Claims 1, 6, 14, 15, 26, 27, and 33 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Antonio et al. (U.S. Publ No. US 2002/00957515) in view of Takahashi (U.S. Patent No. 5,878,020). Applicants respectfully traverse the rejection.

Antonio discloses a variable mode multi-media data object storage device. When in the write mode, the disk spins at the faster rotation speed than in a read mode. As stated in paragraph [0020]:

Because it is not necessary for the storage device to be ready to perform arbitrary operations, such as random access disk drives must be ready to perform in a computer, the storage device can use multiple disk, or platter, rotation speeds to support multiple modes of operation. To provide rapid download and real-time utilization, the storage device operates in at least two modes of disk drive operation, supporting a fast platter rotation speed for writing and a slower platter rotation speed for reading. The multiple rotation speeds operate in conjunction with a head assembly configured with at least one head for reading and multiple heads for writing. When the storage device operates in write mode, the disk drive spins at the faster rotation speed. When the storage device is in utilization or playback mode, the disk drive spins at the slower, power conserving, rotation speed. The disk drive of the storage device is commanded into fast or slow speed by a processor or computer coupled to the disk drive. (paragraph 0020)

Applicant notes that Antonio teaches a single disk drive unit (102) as shown in Figure 1. Applicant submits that this single disk is an exemplary embodiment of the variable mode

multi-media data object storage device that operates at one speed for writing data and another speed for reading data (see paragraphs 0021-0023 and Figure 1).

Claim 1 recites:

A server system comprising:

- a high performance spinning-type hard drive for storing a first set of data; and
- a power controlled spinning-type hard drive for storing a second set of data,

wherein the power controlled spinning-type hard drive is configured for lower power consumption as compared to the high performance spinning-type hard drive and the first set of data is distinguished from the second set of data by characteristics.

Applicant notes that Claim 1 has one element that is a high performance spinning-type hard drive and has a second element that is a power controlled spinning-type hard drive. These are two separate hard drives. Whereas Claim 1 recites two separate hard drives, Antonio teaches a single hard drive. Thus, Claim 1 recites elements not found in Antonio.

Takahashi teaches a method of management of information on a disk that increases the speed of file management by constructing a data area and a management area on the disk so that they are both read at the same speed. Specifically, Takahashi teaches with respect to Figure 5:

FIG. 5 is a view for explaining data track arrangement 1 (a replacement/management area is arranged on an inner side of each data area) of the double-layered optical disk shown in FIG. 4.

In this arrangement, replacement/management area MA1 whose rotation speed (rpm) is N1 is arranged spirally or concentrically with data area DA1 whose rotation speed is N1. Replacement/management area MA1 can be arranged at any portion in the zone where the rotation speed is equal to that of the data area DA1. In this case, replacement/management area MA1 is arranged on the inner side of disk OD.

Similarly, data area DA2 with rotation speed N2 is arranged outside data area DA1, and replacement/management area MA2 with rotation speed N2 is arranged spirally or concentrically with data area DA2. Data area DA3 with rotation speed N3 is arranged outside data area DA2, and replacement/management area MA3 with rotation speed N3 is arranged spirally or concentrically with data area DA3. Data area DA4 with rotation speed N4 is arranged outside data area DA3, and replacement/management area MA4 with rotation speed N4 is arranged spirally or concentrically with data area DA4.

In this data area arrangement, the relation between the rotation speeds of the constant rotation zones is defined as  $N1 > N2 > N3 > N4$  to average the recording densities of the rotation zones (DA1+MA1; DA2+MA2; DA3+MA3; DA4+MA4), thereby ensuring a large recording capacity in the entire disk. (col. 7 lines 31-53).

Further, Takahashi teaches:

When data is to be written in data area DA1 of optical disk OD having the structure shown in FIG. 5, management (management of the data write range in the data area DA1) is performed only in replacement/management area MA1 of the same rotation speed zone. Similarly, write management in data area DA2 is performed only in replacement/management area MA2 of the same rotation speed zone. Write management in data area DA3 is performed only in replacement/management area MA3 of the same rotation speed zone. Write management in data area DA4 is performed only in replacement/management area MA4 of the same rotation speed zone.

With this arrangement, the rotation speed of disk OD need not be switched during write management. Therefore, writing can be performed at a higher speed.

On the other hand, when data is to be read out from data area DA1 of optical disk OD having the structure shown in FIG. 5, management (management of the data read range in the data area DA1) is performed referring to only replacement/management area MA1 of the same rotation speed zone. Similarly, read management in data area DA2 is performed referring to only replacement/management area MA2 of the same rotation speed zone. Read management in data area DA3 is performed referring to only replacement/management area MA3 of the same rotation speed zone. Read management in data area DA4 is performed referring to only replacement/management area MA4 of the same rotation speed zone.

With this arrangement, the rotation speed of disk OD need not be switched during reading. Therefore, reading can be performed at a higher speed. (col. 7 line 66- col. 8 lines 28).

Applicant concludes that Takahashi teaches the advantage of having a management data (MA1, Fig 5) area physically close to a corresponding data area (DA1, Fig. 5) in order to be able to write data to those areas and read data from those areas at the same rotational rate of speed (N1). Moreover, the read rate (N1) and the write rate (N1) are the same for the combination of areas MA1 and DA1. Thus reads and writes to that area can be conducted at the same speed.

Initially, Applicant notes that Antonio teaches writing at one speed and reading at a different speed on the same disk drive whereas Takahashi teaches reading and writing at the

same speed within any combined data and management area on the same disk. Thus, several differences become apparent.

One difference is between the cited art and the recited claims. Claim 1 addresses, in relevant part, the storing a first data set on a high performance hard drive and storing a second set of data on a different power controlled hard drive. Neither Antonio nor Takahashi teaches storing a first set of data on a high performance hard drive and storing a second set of data on a different power controlled hard drive as recited in Claim 1. Thus, neither Antonio nor Takahashi teach all elements of Claim 1. Since independent Claims 14 and 26 also recite elements which refer to at least two different types of separate hard drives, then neither Antonio nor Takahashi, considered separately, or combined, do not teach all of the elements of the recited independent claims. Accordingly, a prima facie case of obviousness under 35 USC §103(a) has not been established because all limitations are not found in the references.

A second difference becomes apparent between the teachings themselves. Since Antonio bases its principle of operation upon having a first rotational speed for writing data and a second rotational speed for reading data on the same disk, and Takahashi teaches writing and reading at the same speed on the same disk for any given management and data area, then the combination of Antonio and Takahashi changes the principle of operation of Antonio. This combination is inoperable.

MPEP §2143.01 Part VI states that a proposed modification cannot change the principle of operation of a reference in a 35 U.S.C. §103 rejection. Specifically, Part VI states: "If the proposed modification or combination of the prior art would change the principle of operation of the prior art being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious."

Since Antonio relies on one speed for writing data and a second speed for reading data on a single disk, and Takahashi teaches the advantage of having the same speed for reading and writing data into an area on a single disk, the combination cannot be a viable combination for purposes of establishing a prima facie case of obviousness under 35 U.S.C. §103(a) because the addition of Takahashi to Antonio impermissibly changes the principle of operation of Antonio. Accordingly, the combination of Antonio and Takahashi is sufficient to dramatically change the principle of operation of Antonio and render the present 35 U.S.C. §103 (a) rejection impermissible according to MPEP §2143.01 Part VI. The addition of other

references, such as Dougliis, Jenny, Gonos, Lu, Malcolm, Hudson, Wang, or Yagawa does not diminish the impermissible effect of Takahashi in changing the principle of operation of Antonio.

Accordingly, Applicant respectfully submits that the 35 U.S. C. §103 (a) rejection does not represent a valid prima facie case of obviousness. Applicant submits that this applies to the 35 U.S.C. §103 (a) rejection of independent Claims 1, 14, and 26 and their respective dependent claims. Not only does the combination of Antonio and Takahashi fails to disclose all of the element of the independent claims, but in addition, the use of Antonio in combination with Takahashi is impermissible according to MPEP §2143.01 Part VI. Thus, Claims 1-40 patentably define over the cited art.

Claims 2, 9, 21, and 28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Antonio et al. (U.S. Publ No. US 2002/00957515) in view of Takahashi (U.S. Patent No. 5,878,020) and in further view of Dougliis et al. (U.S. Patent No. 5,493,670).

Applicants respectfully submit that Claims 2, 9, 21, and 28 are allowable as depending from allowable Claims 1, 14, and 26 which patentably define over the cited art as discussed above and according to MPEP §2143.03.

Claims 3 and 16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Antonio et al. (U.S. Publ No. US 2002/00957515) in view of Takahashi (U.S. Patent No. 5,878,020) and in further view of Jenny et al. (U.S. Patent Publ No. 2003/0065743).

Applicants respectfully submit that Claims 3 and 16 are allowable as depending from allowable Claims 1 and 14 which patentably define over the cited art as discussed above and according to MPEP §2143.03.

Claims 4, 10-13, 17, 22-25, and 29-32 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Antonio et al. (U.S. Publ No. US 2002/00957515) in view of Takahashi (U.S. Patent No. 5,878,020) and in further view of Gonos (U.S. Patent No. 6,901,418).

Applicants respectfully submit that Claims 4, 10-13, 17, 22-25, and 29-32 are allowable as depending from allowable Claims 1, 14, and 26 which patentably define over the cited art as discussed above and according to MPEP §2143.03.

Claims 5 and 18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Antonio et al. (U.S. Publ No. US 2002/00957515) in view of Takahashi (U.S. Patent No. 5,878,020) and in further view of Lu et al. (U.S. Patent No. 6,684,121).

Applicants respectfully submit that Claims 5 and 18 are allowable as depending from allowable Claims 1 and 14 which patentably define over the cited art as discussed above and according to MPEP §2143.03.

Claims 7, 8, 19, and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Antonio et al. (U.S. Publ No. US 2002/00957515) in view of Takahashi (U.S. Patent No. 5,878,020) and in further view of Malcolm et al. (U.S. Patent Publ No. 2002/0004917).

Applicants respectfully submit that Claims 7, 8, 19, and 20 are allowable as depending from allowable Claims 1 and 14 which patentably define over the cited art as discussed above and according to MPEP §2143.03.

Claim 34 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Antonio et al. (U.S. Publ No. US 2002/00957515) in view of Takahashi (U.S. Patent No. 5,878,020) and in further view of Hudson et al. (U.S. Patent Publ No. 2002/0059440).

Applicants respectfully submit that Claim 34 is allowable as depending from allowable Claim 26 which patentably defines over the cited art as discussed above and according to MPEP §2143.03.

Claims 35-37 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Antonio et al. (U.S. Publ No. US 2002/00957515) in view of Takahashi (U.S. Patent No. 5,878,020) and in further view of Wang et al. (U.S. Patent No. 6,834,326).

Applicants respectfully submit that Claims 35-37 are allowable as depending from allowable Claim 1 which patentably defines over the cited art as discussed above and according to MPEP §2143.03.

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**PATENT**

Claims 38-40 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Antonio et al. (U.S. Publ No. US 2002/00957515) in view of Takahashi (U.S. Patent No. 5,878,020) and in further view of Yagawa (U.S. Patent Publ No. 2002/0015946).


Applicants respectfully submit that Claims 38-40 are allowable as depending from allowable Claim 1 which patentably defines over the cited art as discussed above and according to MPEP §2143.03.

**Conclusion**

Applicant respectfully requests reconsideration of all pending claims in light of the amendment and the arguments above. Applicant respectfully requests a Notice of Allowance for all pending claims as they patentably define over the cited art.

Respectfully Submitted,

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